Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Arboriculture - Height, growth, and fall notes of trees in test plantings, have been taken during the week. The hauling of dead wood and stumps from hardwood blocks has been completed. Considerable dead wood in conifer blocks remains to be cut out. A start has been made in plowing nursery stock of which there is very little to do this fall. Studies of the rooting habits of a few species of trees which died during the past summer have been made during the week.

Visitors included Dr. H. L. Walster, and Leroy Moomaw.

BELLE FOURCHE:

The weather during the week was comparatively mild, a few of the days being unusually warm for the season of the year. A rain of 0.75 inch was received October 3, and adequate moisture is now present in the soil for the germination of fall grain seeded the previous week.

Drilling of the artesian well on the station through the Lakota sandstone was finally completed at a depth of 2,575 feet. A heavier flow of water was encountered than in the Dakota sandstone, but the pressure was not great enough to force the water over the top, the water level being 75 feet below the surface. Further development of the well has been postponed, pending the outcome of requests for funds to drill to the Minnelusa sandstone, at an estimated depth of about 4,000 feet.

Visitors at the station were S. H. Hastings, Division of Western Irrigation Agriculture, and F.A.Hayes,Bureau of Chemistry and Soils.

Maximum temperature, 79°; minimum, 31°; precipitation, 0.75 inch.

ARCHER:

During the past week the weather was very pleasant except for wind during October 5. Winter crops remain about the same as last week. Work at the station consisted of digging potatoes, cleaning yards, and to-day the corn from the plots is being hauled and weighed and that with grain is being husked. The lambs pastured on the corn field are taking on a thriftier appearance.

Maximum temperature, 76°; minimum, 31°; precipitation, none.

AKRON:

The week has been favorable for closing-out the fall field work, but unfavorable for the agricultural outlook. Proso and hay millet experiments were hauled in, weighed, and threshed during the week. Potatoes were harvested, and this made possible the seeding of the rate and spacing corn project ground to winter wheat. The potato yield on stubble land was about 6 bushels per acre of very small, unmarketable tubers per acre.

Winter wheat seeded on the rotation block September 21 is emerging spottedly. It does not now look like full stands would be realized unless more rainfall is received and maybe not then, for there is always the danger in uneven emergence that a part of the wheat has germinated and then died because of dessication before appearing above the ground.

Maximum temperature, 85°; minimum, 33°; precipitation, none.

COLBY:

This week has been warm, dry, and generally pleasant, except Wednesday when a hard wind filled the air with moving soil all day. Winter wheat is not making much progress. That which is up is not growing, and that which is not up yet seems to be stopped until more moisture falls. The sorghum plots were cut the last of last week and the first of this week. It was necessary to use the grain binder for this work. Even then many of the stalks were too short to get anything but the tips. The summer fallow plots will average a fair yield of stover, but most of the continuously cropped plots yielded only a bundle or two.

Maximum temperature, 90°; minimum, 36°; precipitation, none.

Precipitation for September, 0.75 inch; precipitation, January 1 to October 1, 6.77 inches, the second lowest on record; 47-year average, 15.54 inches.

GARDEN CITY:

The fore part of the week was windy, rather cool, and very disagreeable with dirt in the air most of the time. The rest of the week has been beautiful weather with low wind movement and comfortably warm. Operations this week consisted of buring weeds in fence rows and in piles where Mexican sandburs had been piled for burning. The wheat and rye plots were put in readiness for planting. All staking was finished, and we are waiting for that promised rain.

Maximum temperature, 87°; minimum, 42°; precipitation, none.

TUCUMCARI:

Temperatures the past week have been unusually high, ranging from 47° to 90°. Wind velocity averaged 5.8 miles per hour.

Work consisted of miscellaneous fall clean-up. Milo in many rotations is in full head, with extensive firing occurring the past week. Firing is most marked in plots on land where milo disease is prevalent, with plants dwarfed and dying. On uninfected land, milo still appears healthy and would make considerable yield if rains occurred and if frost were delayed 30 days.

Kafir ranges in height from 1 to 2.5 feet, with a few heads in the boot. In spite of continued drought and slow growth of plants, kafir still presents dark green coloration and shows no signs of firing. Plots will be too short to bind.

Precipitation the past 57 weeks, 6.25 inches.

DALHART:

The soil bearing winds were hardly as severe during the week as they were during the preceding five weeks. September was the windiest September since 1916. The month was the only one of the year in which the precipitation was greater than the average. The high winds not only exhausted the surface soil moisture, but the fine surface sand following the showers played havoc with rye and wheat seedlings in the less than one-week stage. These young seedlings were killed easily. Some stands of rye on the station are thinned appreciably. The rye seeded in the conifer planting is a total loss, except for one corner where surface moisture was more plentiful and where there was a slight protection from the wind. The winter wheat and rye rotations show excellent stands and no wind damage to this date. All rye plantings, except the vineyard and tree plantings where the rye is still good, were strip cultivated with

shovels on a field cultivator to hold the blowing in check. The row plots in the west field were also roughened to prevent blowing. Milo grain, in the north field where we will have a few plots with grain, is coloring up rather fast. Native grass is showing more green than at any time since the fall of 1933; in that year also the grass never greened up all summer until the rains the last of August. The native sod on the station, while thin on the ground, is not killed out in large areas as we had feared.

Maximum temperature, 88°; minimum, 45°; precipitation, none.

BIG SPRING:

Weather conditions have remained hot and dry, with the result that milo has burned considerably. While the main heads had developed a fair size, the sucker heads will be very small with light grain development. Other sorghums are maturing prematurely at about half their normal size. Cotton is opening slowly with light yields in view.

Station work has consisted of remodeling the feed pens for the coming season's feeding work, fencing a Sudan block for pasture, and picking cowpea and soybean seed. The cotton varieties were also picked over for the first time.

Maximum temperature, 96°; minimum, 51°; precipitation, none.

LAWTON:

Clear skies, very little wind, and temperatures that ranged from a minimum of 45° to a maximum of 87° during the past week were very favorable to the prosecution of such field work as cotton picking and the seeding of small grains. Rotation plots of wheat and barley and the wheat and the barley variety projects were seeded October 1-3. Surface moisture appeared to be sufficient for emergence, except on late, shallow plowing and on plots where wheat was drilled in the cotton. Early seedings of winter oats and winter barley are making very satisfactory growth to date.

The second picking of cotton, which will be the last one, is in progress. Very light yields of a very poor quality of cotton are being obtained. Rotation plots in Field A averaged 128 pounds of seed cotton per acre, with individual yields ranging from 70 to 200 pounds per acre. Gin reports show that 2,700 bales have been ginned within the county to date, and it is estimated that this represents approximately one half of the total crop.

WOODWARD:

The past week has been clear but cool. Wheat has made very rapid growth. Sorghums have developed somewhat more rapidly than the previous week, but there is little hope of the maturity of much grain.

Station work consisted of putting up sorghum hay, hauling brush, drilling wheat, spraying Johnson grass, taking soil samples, budding and pruning trees, and trapping gophers.

In the flower garden spring blooms mingle with autumn colors. Climbing roses, shrub althea, lilacs, and heckrotti honeysuckle are all in flower.

Among the usual fall flowering sorts Dalea frutiscens is perhaps most charming with its airy mounds of pink bloom. This was collected from the wild two years ago, but should be widely popular as a cultivated plant. It ordinarily grows under almost desert conditions. Yucca aloifolia or Spanish bayonet is making a finer showing than any other yucca has, with flower spikes to 8 feet. Polygonum auberti or China

fleecevine apparently is the most vigorous dry land vine we have, and its clouds of small, creamy white flowers are very conspicuous during all of late summer. Caryopteris or "Blue spirea" is a most reliable and satisfactory fall blooming shrub. Several salvias are dependable from midsummer on, whatever the weather. Several species of liatris follow one another from August until frost. Their common name, gayfeather, well describes the showy red spikes. About forty varieties of early blooming chrysanthemums were obtained this spring and were kept alive with difficulty during the summer. They are now in bloom. Their beauty and their great range in form and color should make them a rage as soon as they become known. For vivid masses of color, several asters, especially the blue gen variety, are unequaled. As there are some seventy species native to the plains and prairies and a number introduced from the old world, a few, no doubt, might be found adapted to most any conditions.

Maximum temperature, 86°; minimum, 46°; precipitation, none.

PENDLETON:

Another week of fine weather, warm days and cool nights, but no rain of any value. The first date of seeding in the furrow drill experiment was seeded on the 1st, it was necessary to put the seed in about 4 inches deep to reach moisture. The furrow drill did not turn up any more moisture than the single disk drill. The Soil Erosion Service and the Bureau of Plant Industry expect to use about 1 acre of land this year on the Pendleton Field Station for a grass nursery. The grasses in this nursery will be from collections made by a crew of ten botanists, traveling over the states of Oregon, Washington, and Idaho this summer.

Maximum temperature, 81°; minimum, 31°; precipitation, 0.06 inch.

- - - - - - - - - - - - - - - - - - -

NOTE:

The station reports of this division will be made and issued monthly during November, December, January, February, and March. The last report for October should be for the period ending October 31 instead of for the week ending October 27.

* * * * * * * * * * * * * * * * * *

REC'D
LIBRARY
NOV 1 - 1934

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 13, 1934.

HAVRE:

The week was unseasonably warm, with maximum temperatures ranging from 73° to 85° and the minimum from 38° to 51°. Wind velocity was not high for this season of the year. Winter grains are all growing rapidly. Volunteer grains are thick and have made a rapid growth since the snow storm. Russian thistles are black but are still too moist to burn. Most grasses have started growth. The prairie in many places has a green cast. This is largely wheat grass. Bromegrass and crested wheatgrass have made good fall growth for this section.

L. B. Thomson of the Dominion Range Experiment Station at Manyberries, Alberta, was a station visitor on the 12th.

Maximum temperature, 85°; minimum, 38°; precipitation, none.

JUDITH BASIN:

The weather the past two weeks has been unseasonably warm for this time of year. Temperatures have reached the upper seventies and eighties nearly every day for the past ten days. All fall seeded grains have emerged with good stands and are growing rapidly. There is a heavy volunteer crop of grain coming on all roadways and fall plowed plots. Much of this growth will undoubtedly be killed by the first heavy freeze. All pastures and hay fields are showing green again. Crested wheatgrass, where not pastured too closely during the summer, is now furnishing good pasture.

Maximum temperature, 87°; minimum, 33°; precipitation, 0.09 inch.

HUNTLEY:

The last week has been free from frost, and most of the days have been warm with extremely heavy morning dews. One shower was received. Fall sown grains have made a good growth, and range grasses are showing more green now than at any time since April. Weeds, especially downy bromegrass, are coming up thickly in many places. Alfalfa has recovered from the last cutting and is making a fair growth.

Most of the week was devoted to gathering sorgo and Sudan grass seed and weighing up feeder lambs for the fattening experiments which will be conducted on the station this winter.

Maximum temperature, 85°; minimum, 34°; precipitation, 0.31 inch.

SHERIDAN:

Warm weather continued over the entire week. A light rain the first of the week delayed field work temporarily. Grass and grain, both seeded and volunteer, made a rapid growth.

Sorgo, Sudan grass, proso, and the little flax in the rotations were threshed. All sorgo was threshed in order to shred the stalks. Some plowing was done where the ground was sufficiently clear of Russian thistles. The thistles have not yet loosened up enough to rake off without mowing. Grass seed sown broadcast last spring and only lightly or partially covered emerged within the last week or so. A fall seeding of alfalfa, bromegrass, and crested wheatgrass, both broadcast and drilled, was made during the week.

Maximum temperature, 83°; minimum, 36°; precipitation, 0.19 inch.

MANDAN:

Agronomy - The past week has been warm for this time of the year. There was no precipitation.

Winter rye and winter wheat, which were planted September 24, have not come up. There is some germination on fallow.

Maximum temperature, 86°; minimum, 38°; precipitation, none.

Cooperative Grazing Experiment - Crested wheatgrass shows a little green growth at this time, while the bromegrass shows none at all. Blue gramagrass and western needlegrass also show some green growth at present.

Horticulture - Fruit trees in the nursery have been dug, fumigated, and stored in the root cellar for the winter. Most of the stock is two years old, and the sizes run a little larger than we prefer to ship to cooperators. Evidence in the field indicates that better stands are obtained from one-year budded stock, particularly in dry years. This year we have a surplus of apples and crabs but are a little short on plums.

There has been no break in the long period of drought, and it now appears that trees will enter the winter with the soil in very dry condition. If there should be a light snowfall this winter, and the dry weather continues next spring, severe drought killing will undoubtedly result.

Visitors for the week included H.C.Sumner, Northwest Grain Improvement Association; Evans Hall, Agricultural Development Agent, Milwaukee RR. R.Maclagan Gorrie and Mrs.Gorrie, British Forest Service, Hdq.Lahore, British India; Clarence Plath, Interior Dept., and numerous other officials from both the Interior Department and Forest Service.

BELLE FOURCHE:

Abnormally warm weather prevailed throughout the week, and there was only one night in which the temperature fell below 40°. Conditions were favorable for the growth of fall grain. Satisfactory stands of winter wheat apparently will be obtained on deep fall plowing, and the crop is up with excellent stands on all other cultural treatments. Corn was husked on the few plots that produced grain, and the hauling of corn fodder and stover is nearly completed. Picking tree seed for the Northern Great Plains Field Station was commenced during the middle of the week.

Maximum temperature, 84°; minimum, 38°; precipitation, none.

ARCHER:

During the past week the weather was pleasant. Notwithstanding the dry conditions, winter wheat seedings made October 1 on fallow ground have emerged, but the seedings made on cropped ground remain dormant. Ranchers desire precipitation to moisten the native grasses in order that they will not break off and blow away. The experimental corn which remained shocked in the field has been hauled and weighed. Only a few plots produced grain. The threshing of beans is in progress.

The lambs which are pasturing off a field of corn were weighed this morning, which is the end of the second two-week period. The average gains per head for each period are as follows:

		First period	Second period
Lot 1	- Cottonseed cake	4.4 pounds	4.5 pounds
Lot 2	- No supplement	4.0 pounds	5.0 pounds

Director W.L.Quayle and G.H.Starr were station visitors during the week.

Maximum temperature, 83°; minimum, 35°; precipitation, none.

NORTH PLATTE:

Weather has been clear, bright, and warm. No freezing temperature has occurred for the month to date. Fall seeded grains and alfalfa have made good growth.

Maximum temperature, 90°; minimum, 37°; precipitation, none.

AKRON:

The weather remains dry. A rain would be about the most welcome climatic phenomenon this region could experience. Field work progressed favorably. Shelter-belt trees are coloring and lossing their leaves normally this fall. Bean yields are proving failures, except Tepary, which always yields something no matter how dry the season.

Maximum temperature, 90°; minimum, 37°; precipitation, none.

COLBY:

This week has been dry and warm. Occasionally it has been windy and dusty. The wheat that is up is beginning to need moisture to keep alive. It is making practically no growth. The corn, milo, kafir, feterita, and sorgo plots were hauled in and weighed. There was not a single nubbin with grain on the corn plot. The sorghum plots produced about 500 pounds of stover.

Maximum temperature, 92°; minimum, 38°; precipitation, none.

GARDEN CITY:

Climatic conditions in and around Garden City have been more pleasant as a whole during the past week than for some time. On three days the air was full of dust and the horizon looked as if there were a heavy fog surrounding the country. The remaining days were hot for this time of year.

The fall seed bed preparation was completed. This includes all fall plowing, listing, etc., for spring crops. As there had been no rain of sufficient volume since the last plowing, the soil was loose, and it was impossible to get the plow to penetrate below the former plow line in order to get a rough surface for winter soil protection. The plow merely shoved the loose soil over, leaving a smooth, dusty surface so this was abandoned. Some chisel points were made to fasten onto the lister in place of the lister bottoms. This made a tool which was able to penetrate, and by doubling it loosened the soil for water penetration and left it sufficiently rough for protection. This work, with the opening of all drains at the south end of the project, completed the operations for fall field work with the exception of seeding small grains. The plots are ready, and seeding will be made as soon as sufficient rains are recorded to insure a good stand, with likelihood of maintenance. The date-of-seeding for the foot-rot experiment will be made on the regularly scheduled date.

Maximum temperature, 95°; minimum, 40°; precipitation, 0.13 inch.

TUCUMCARI:

Precipitation of 0.01 inch this week brought the total for the year to date to 4.89 inches and for the past 13½ months to 6.26 inches. Crops remain alive, but they are making little growth. A little grain may mature on a few milo plots, and some few kafir plots may warrant binding for fodder weights. Aside from these, plots and increase plantings will be reported as failures. Wheat and rye on MCB and D plots show fair stands, but A plots show no emergence. Rye seeded in

vineyard and orchard has not emerged. The dry soil is very loose and ashy, and during periods of high wind movement some drifting has occurred in fields, orchard, and vineyard.

Maximum temperature, 92°; minimum, 43°.

DALHART:

Without any additional moisture being received during the week, the young wheat and rye seedlings have begun to show the depletion of that previously received. The winter rye in the tree plantings during the past two days has wilted almost beyond recovery. Several farmers who have seeded part of their winter wheat acreage report the same experience with wheat. Except in a few favored localities, it is doubtful if there is sufficient moisture in the soil to bring any of the wheat through the winter without additional precipitation.

Maximum temperature, 89°; minimum, 40°; precipitation, trace.

BIG SPRING:

Another dry week has hastened the maturity of the grain sorghums. The foliage is burning up and the heads are maturing, some of them with no grain and others with fairly well developed heads. It is probable that the forage sorghum varieties and an increase field of Sumac will have to be harvested next week unless rain is received - the foliage is burning before the heads are mature. Station work has consisted of heading milo in the rotations, harvesting kafir in plots, and picking cotton. Other work has consisted of digging ditches for water lines to cattle feeding pens.

Maximum temperature, 91°; minimum, 50°; precipitation, 0.09 inch.

WOODWARD:

Partial cloudiness, little wind, and moderate temperatures have characterized the week. A slight shower occurred the night of the 12th. Sorghums continue to develop deliberately, but the soil is becoming very dry and leaves are drying rapidly. Wheat is stooling heavily and covering the surface well, and is in exceptionally good condition.

Some trees, such as green ash, dropped foliage early, due to drought; but most of them are holding it exceptionally well, and colors are becoming very rich. Shrubs and other ornamental plants which bloomed so freely after the rains are losing much of their ardour, due to dry weather and low temperatures.

Station work for the week consisted of harvesting cowpeas and sorghum hay, pulling and seeding broomcorn, pruning trees, hauling brush, picking fruit, and trapping gophers.

Maximum temperature, 92°; minimum, 48°; precipitation, 0.06 inch.

PENDLETON:

Fine weather with bright warm days prevailed during the week. A shower of 0.16 inch fell during the night of the 12th. The soil is still too dry for seeding, but a few farmers are seeding in the dust. Work on the station consisted chiefly of fall plowing the rotation and tillage plots. The fall plowed soil turns up very cloddy and will require at least an inch of rain before it can be worked down to a good seed bed.

Visitors - Messrs. Hill, McDole, and Yesland of the Soil Erosion Service.

Maximum temperature, 77°; minimum, 33°; precipitation, 0.16 inch.

****

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING OCTOBER 20, 1934.

HAVRE:

The past week was the second in succession that was warm. Freezing temperatures were recorded on two days. With the exception of one foggy day, with a temperature of 39°, maximum temperatures ranged above 50°. Winter grains and volunteer grains are growing nicely. Some of the native grass in low land has made recent growth sufficiently large for some grazing. Some fall plowing was done during the week. Russian thistles are not dry enough to burn. A few have started to break off and in some cases are rolling when the wind blows. The station cattle were moved during the week from the summer grazing land in the mountains to the station.

R. L. Shotwell of the Bureau of Entomology, Headquarters at Bozeman, was at the station the past few days. The results of his survey of grasshopper egg infestation show that the numbers are much less than last year. Only a few restricted areas in this part of the State show enough eggs to result in serious damage next year.

Maximum temperature, 61°; minimum, 27°; precipitation, 0.14 inch.

HUNTLEY:

Although the last week was somewhat cooler than the previous one, good growing weather for fall grains and grasses prevailed and these crops made marked advancement. Winter wheat on most plots has reached the rosette stage and nearly covers the ground. Winter rye appears to be somewhat slower than wheat this fall, although the two crops were planted at the same time. Conditions have favored the germination and growth of volunteer spring grains, and many plots are quite green. Plots of Crested wheatgrass are also making a vigorous new growth, and where seed was matured and scattered by the wind a large number of seedling grasses has appeared.

Maximum temperature, 72°; minimum, 30°; precipitation, 0.02 inch.

SHERIDAN:

Temperatures above the average for the season continued over the entire week, except for the last day which was cloudy with light rain. Growth of grass and grain continued good. Fall sown grain has now made a greater growth than for several years. The water line to the cottage under construction was laid and covered, and grading about that building was completed. The sewer line was partially completed, and plastering is now in progress. Measurements on the growth of the 1931 shelter-belt planting were taken.

Maximum temperature, 70°; minimum, 33°; precipitation, 0.15 inch.

MANDAN:

Horticulture - Light rains during the past week have been of benefit to trees and shrubs, but more rain is needed. Nursery stock has been dug and heeled in for the winter. Some fruit seeds have been planted in the seed beds, and some stored in sand for spring planting. Celery has been dug and stored. The quality was very good. Golden Plume was the best fall variety and Fordhook the best winter variety. Both are decidedly large with a well developed heart. A few carrots, beets, and rutabegas were harvested from the acre garden. This is the first time since the project was started that there has

been almost a complete failure of vegetable crops.

1,800 tulips in assorted varieties were planted in the herbacious border on the grounds. The old bulbs were so few in number and so small, apparently due to the dry weather, that they had to be discarded.

The hardy chrysanthemum selections sent from Washington by Mr. Mulford, have made a wonderful show as to colors. They have been in bloom since August and are still looking good, and if they prove hardy with ordinary protection, they should be a great acquisition to ornamentals for this region.

Arboriculture - Pulling of nursery tree stock has been in progress during the week. Green ash, buffalo berry, and buckthorn seedlings are the only ones large enough for shipment next spring. The rains of this week have enabled us to plow the nursery fields.

Visitors for the week included J.M.Aikman and J.W.Hubbard, shelterbelt project, Forest Service, St.Paul,Minn. Ernest Wright, Forest Service, San Francisco, Calif. Harland Stevens, Cereal Crops and Diseases, Aberdeen, Idaho.

Maximum temperature, 84°; minimum, 29°; precipitation, 0.73 inch.

BELLE FOURCHE:

The weather was cool, cloudy, and threatening most of the week. A total of 0.90 inch precipitation was received during a thunder storm on the night of the 15th. A dense fog prevailed Thursday night and the following morning, and a light shower occurred the 19th.

Fall grains have made a good growth, and winter wheat is in a much better condition for entering the winter than it has been for years. Late harvested oats are making a second growth. Hay crops and some of the range and pasture grasses have resumed growth, but not to an extent sufficient to afford an appreciable amount of pasture.

Hauling and weighing of corn fodder and sorgo was practically completed before the heavy rain. Picking tree seed for the Northern Great Plains Field Station is still in progress.

Maximum temperature, 67°; minimum, 36°; precipitation, 1.05 inches.

ARCHER:

During the past week the weather continued mild and dry. Heavy winds caused some soil blowing October 19 and 20. In sections where the soil is rather sandy, soil blowing during the last two days was rather prevalent. Moisture generally would prove of considerable benefit, especially to winter wheat. A sufficient amount of moisture would tend to settle the fallow land and make it more resistant to soil blowing.

Winter wheat on fallow is, in most cases, in fair condition; but the land that was cropped during the past season is very dry, and the germination of winter cereals seeded on such ground is practically nil.

Station operations consisted of plowing the fall plowed plots in the rotation experiments, painting the roofs of some of the buildings, and general preparations for winter.

Maximum temperature, 73°; minimum, 36°; precipitation, none.

COLBY:

This week was warm and rainy. It was rainy, misty, and foggy all the time from Wednesday morning until Friday morning, but the total precipitation for the two days was only 0.07 inch. A very high wind blew all day Monday filling the air with dust and causing considerable soil blowing. It was followed by 0.02 inch of moisture in the evening. The wheat that is up seems to be holding its own.

Maximum temperature, 85°; minimum, 38°; precipitation, 0.09 inch.

HAYS:

The weather during the past week as well as during the past three weeks has been generally clear and mild, interrupted only by two or three days of heavy wind and by a shower on the 18th accompanied by three days of cloudy and foggy weather. As yet, there has been no killing frost.

Kafir and milo on the project are still green, but they have made little development during the past month. There are only a few green heads scattered over the plots. The stand of winter wheat is generally fair, although it is more or less spotted and looks none too well. On fallow it naturally is the best, and the poorest is on kafir ground. The emergence is not so good where the wheat was drilled with the deep furrow drill as where it was sown with the ordinary drill. A light rain in September following seeding crusted the ground more where seeded with the furrow drill, and considerable wheat failed to come through the crust.

The general condition of the wheat from Salina to Hays is below normal. The stand is generally spotted with the exception of a few scattered fields. The most backward observed was about midway between Salina and Hays. A good general rain is needed over this territory. Coming west one begins to see stacks of Russian thistles about Ellsworth, Kans., from which place they grow more numerous as one travels west.

Maximum temperature, 85°; minimum, 48°; precipitation, 0.43 inch.

TUCUMCARI:

No frost has occurred, but temperatures are much lower than a week ago. Precipitation of 0.48 inch this week brought the total for the year to date up to 5.37 inches. In spite of continued drought, milo plants where not too severely injured by disease are still doggedly developing. It now appears likely a number of these plots will be headed, with a light grain yield, where ten days ago it seemed unlikely any mature grain would be produced.

Cowpeas have made too limited growth to be harvested, and in most cases the sorgos, kafir and hegari will be too short to bind.

The shower this week was the most general of any precipitation in months. In some neighborhoods it was much heavier than at Tucumcari and probably was of real value to much of the wheat growing section of eastern New Mexico and the Panhandle.

Maximum temperature, 86°; minimum, 45°.

DALHART:

The tone of this week's report is changed from the monotonous chant of drought injury, in spite of the fact that Monday was one of the worst of many days of soil blowing and shifting sands. Rain fell, as gentle showers for the most part, Tuesday night and Wednesday morning and again Wednesday night. The total precipitation on the station amounted to 1.45 inches. Penetration was good. Winter wheat and rye

have brightened up and have started vigorous growth. This is especially noticeable in the tree plantings, where the rye was practically at the critical stage. Winter rye was reseeded in the conifer planting and in parts of the west field. It is now planned to reseed a few other small areas. There is apparently sufficient moisture in the soil now to permit the rye to make an excellent cover crop. The rain, while variable in amounts, was the most general that this section has received in over two years.

Maximum temperature, 83°; minimum, 41°; precipitation, 1.45 inches.

BIG SPRING:

Cloudy weather has prevailed during the past week, with rain threatening every day, but only a light shower was received. The days although cloudy have been warm and the nights especially so for this time of the year.

Wheat which has been seeded for grazing purposes is dying rapidly; unless moisture conditions change in the near future, very little value will be realized from this much needed pasture.

It was necessary to harvest many of the sorghum variety plots before the grain was mature, because the foliage was burning up. Milo in the rotations was headed, and cotton in the rotations, spacing, and varieties was picked during the week. Other work consisted of cutting an increase field of Sumac.

Maximum temperature, 90°; minimum, 50°; precipitation, 0.03 inch.

LAWTON: (Report for the two weeks ending October 20, 1934)

Clear, sunny skies, maximum temperatures of 70° to 87°, minimum temperatures of 45° to 63°, and an average wind velocity of approximately three miles per hour prevailed throughout the first half of October.

The need of additional crop moisture became a general farm complaint, as the evidence became pronounced in the early seeded fields of small grain. Heavy rains that filled ponds with stock water were reported over widely distributed parts of the county on the 19th. The extent of the rains was quite general, but the amount received varied sharply from less than one-half inch to 3 to 5 inches.

The 0.49 inch received at the station was highly beneficial to emerged seedings of wheat, oats, and barley, and should produce emergence of wheat drill in cotton October 2.

Cotton picking was completed on the station October 13, with the possible exception of a very late picking on the June 1 and 15 plantings in the date of seeding test.

WOODWARD:

There have been six small showers over the past nine days totaling 0.77 inch. Due to this and moderate temperatures wheat has grown vigorously, stooling heavily and rooting well. Sorghums have continued a slow but steady development, except in some cases where they were practically dead when rains started. Owing to use of moisture by plants, there seems to be very little reserve moisture in the soil where either wheat or sorghums are growing. Farmers are therefore not optimistic concerning continued good wheat pasture and the desire for a "good soaker" is frequently voiced. Of course so late in the season the chances are very much against any heavy rains occurring. However, with 5.14 inches of rain since the middle of August, all of it coming in light showers with little run-off, this part of the country is probably in better shape

than most of the Southwest. Sorghums feed and wheat pasture will probably keep stock in good shape until in January, and from then on they are dependent, it would seem, on rather more than usual precipitation.

There is a remarkable infestation of caterpillars, which entomologists say are of minor importance. They prefer broad leaved plants to wheat and rye and are cleaning foliage from weeds and late flower gardens. Their especial preference on the station is chrysanthemums. In a few cases they have destroyed small patches of rye, preferring this to wheat.

Work of week has consisted largely of harvesting all of the larger fields of kafir, which was hauled to the dairy for silage.

Maximum temperature, 86°; minimum, 61°; precipitation, 0.71 inch.

PENDLETON:

Dry conditions still prevail in this section, although we had two showers during the week. At least an inch of rain is needed to put the soil in good condition for seeding, these two showers may help start the weeds. Farmers in the drier sections are seeding their winter wheat in the dust. In the area near the station most of the wheat will be spring sown. On the station we will wait another week before seeding the rotation and tillage plots. Work the past week has consisted chiefly of fall plowing, disking, and chiseling. The chisel we are using is an old three bottom plow, with parts of automobile front axles for chisels. This chisel works as well or better than the high priced factory made chisels.

Visitors - Messrs. Deardorf and McGrew of the Northwest Soil Erosion Experiment Station, Pullman, Wash.

Maximum temperature, 65°; minimum, 30°; precipitation, 0.51 inch.

* * * * * * * * * * * * * * *

WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without
prior consent of this division.

REPORT FOR THE 11-DAY PERIOD ENDING OCTOBER 31, 1934.

HAVRE: (Report for the month of October, 1934)

October was quite mild with nearly normal precipitation and with very little strong wind. Freezing temperatures were recorded only twice during the first 24 days of the month. With the moisture of late September, grasses and winter grains made considerable growth. During the last ten days temperatures have been somewhat lower, but the weather is still open. Work on the station consisted in completing fall plowing, conditions for which were very favorable, and cleaning weeds and rubbish from the plot field wherever possible. Hay was hauled to the feed lots for cattle feeding experiments during the coming winter. Winter grains generally are in good condition. There seems to be more of both winter wheat and winter rye than the usual relatively small acreage of these two crops.

Ranges are from fair to poor. The late grass was of temporary benefit. Hay is scarce and rather high in price. Cattle shipments are nearly complete. Government sheep are being shipped. Most livestock are being culled to breeding herds that can be carried through the winter. In some cases the stockmen are taking a chance that the winter will be mild and are carrying more stock than they should, owing chiefly to the fact that stock they have for sale commands a very low price.

Maximum temperature, 85°; minimum, 19°; precipitation, 0.62 inch.

JUDITH BASIN: (Report for the period October 14 to 31, 1934.)

The weather continued warm and mild throughout the month of October. The precipitation for the month, 0.41 inch, was much below normal, but that received during the latter part of September was sufficient to insure satisfactory development of winter wheat. Consequently the condition of the winter wheat at this time is above average, although additional moisture before the ground freezes would be welcome. All meadows and pastures are showing green and where not grazed too closely during the summer are furnishing some pasture. The volunteer grain in the stubble fields is also adding considerable to the fall feed supply.

All field work on the station has been completed for some time.

Maximum temperature, 83°; minimum, 23°; precipitation, 0.32 inch.

HUNTLEY:

Temperatures have been favorable for the growth of fall-sown grains, and where moisture is available considerable progress has been made. Wheat planted early is generally suffering for moisture on commercial fields, whereas late sown wheat is fresh and green. On the plots most of the wheat is beginning to look dry, irrespective of tillage methods employed in preparing the seed bed. Winter wheat sown on duck-foot fallow in some of the miscellaneous experiments appears to be in somewhat better condition than that on other methods. Field work has consisted of soil sampling and hauling and weighing fodder crops.

Maximum temperature, 74°; minimum, 22°; precipitation, trace.

SHERIDAN:

Cooler and partly cloudy weather with one fair rain prevailed over the last ten days. Grass continued to grow slowly, and the seeding of grass and alfalfa of October 12 has partially emerged. Thistles were cleared from fields I and C, and both fields were plowed. Laying of the sewer line from the cottage under construction was completed, and the ditch was refilled. Shale is now being hauled for the drive by the cottage. The past month was the first one of the year with precipitation above the average. It was the warmest October since 1921. All precipitation for the month fell in the form of rain, which is unusual here, snow being more common than rain for October.

Maximum temperature, 72°; minimum, 24°; precipitation, 0.44 inch; precipitation for October, 2.14 inches.

DICKINSON: (Report for the month of October, 1934.)

The weather in October was mild and dry. Mean temperature for the month was 4° above normal. A maximum of 85° was recorded on three days and a minimum of 6° on the last day of the month. Precipitation for the month was only 0.11 inch. For the ten months in 1934 the precipitation was 7.55 inches or only 52 per cent of normal.

Winter wheat and winter rye looked worse at the end of the month than soon after emergence three weeks earlier. Bromegrass and crested wheatgrass seeded in rows greened up a little, but close drilled plots and native grasses remained dormant.

Visitors included E. J. George of the Northern Great Plains Sta.

MANDAN:

Agronomy - The weather has been reasonably mild for this time of year. No precipitation of value has fallen. Winter rye and winter wheat now show good stands in the field. Crested wheatgrass has made a little late fall growth.

Maximum temperature, 66°; minimum, 19°; precipitation, trace.

The total precipitation for October was 0.73 inch. The 20-year station average for this month is 0.92 inch. There was only a trace of snow during October. The total precipitation from January 1 to October 31 is 7.82 inches, 20-year average 14.83 inches.

Horticulture - Dead wood was cut out and dead trees removed in the fruit breeding blocks and orchards. Raspberries and grapes were laid down and covered with soil, and fall budded fruits and ornamentals were hilled up. To prevent soil blowing in the field plots, lister furrows were plowed between rows and across vacant land. Very little fall plowing has been done, due to the extreme dryness of the soil. Old tops and stubble have been left in the vegetable plots to catch as much snow as possible during the winter months. The flower beds and borders on the grounds have been manured and spaded. The preparation of compost piles and other greenhouse routine work has been in progress.

Arboriculture - Nursery tree stock has been fumigated and heeled-in for the winter. A number of testing blocks which are being discarded have been prepared for pulling the stumps.

Studies of the rooting habits of various tree species have been continued. In the case of Norway pine, no roots were found below the first foot. This probably explains why this species has suffered occasional killing most years, and about 100 per cent loss in 1934.

BELLE FOURCHE:

Unusually mild weather has prevailed most of the time, but the last few nights have been comparatively cold. Three light showers were received, but the precipitation was not sufficient to be of any value to crops. Fall grain has made a fair growth, and winter wheat has become quite well matted on fallow and corn stubble land. Potatoes were harvested, but the average yield was only 15.6 bushels per acre, with 53 per cent of the tubers being of marketable size.

Maximum temperature, 72°; minimum, 18°; precipitation, 0.14 inch.

ARCHER:

The weather continued mild and dry with heavy winds at times. Owing to the dryness of the soil, large dust clouds were raised by the wind. No precipitation was recorded at the station during October. This was also the case in October, 1933.

Winter cereals seeded on cropped ground have not germinated, and the fallow seedings are in a rather poor condition. At the station rabbits are making inroads on the winter wheat crop. The plowing of the rotation plots is finished. The soil was very dry, but by keeping the plowshares sharp, plowing 8 inches deep, and using the greatest of care the work was accomplished, however, the plots are a mass of large clods. The Russian thistles made considerable growth during the fall, therefore they have been raked and burned. The ridging of the plots and fields where fine surface soil is unprotected by stubble is the only field operation remaining to be done.

The average gains of the lambs in the corn pasture experiment are as follows:

	Av. daily gain Oct. 13-27	Total gain per lamb
Lot 1 - Cottonseed cake (¼-lb. per day)	.370 lb.	14.2 lb.
Lot 2 - No supplement	.335 lb.	13.7 lb.

Director W. L. Quayle visited the station October 26.

Maximum temperature, 76°; minimum, 28°; precipitation, none.

NORTH PLATTE:

Following the favorable moisture balance of August and September, October fell back into the deficit class. Total precipitation at the station was 0.29 inch or 27 per cent of normal. Precipitation for the year to date is 76 per cent of normal. Temperatures for the month were high, for the season, with no minimum below freezing from the 1st to 24th. The low for the month was 21° on the 29th.

Winter wheat is in good condition locally and in most sections of the State east of here. Wheat and rye pastures are furnishing temporary relief from the serious shortage of feed for livestock.

AKRON: (Report for the period October 14 to 31, 1934.)

There was foggy weather the 17th and 18th, but the rain gauge only caught 0.04 inch. This was the total precipitation for October. September had only 0.79 inch, making a shortage for the two months of 1.67 inches. The total precipitation to November 1 is 75 per cent normal, but no year in the past 26 has recorded a more nearly complete failure of all crops. The precipitation was very poorly distributed.

The field work is completed. The pig fattening pens have been moved to the north side of the building site. Some of the sod areas have been cleared of cacti.

COLBY:

There has been no rain of any consequence in October. The last 11 days have been characterized by wide ranges between the day and the night temperatures. Freezing temperatures were recorded on seven mornings of the 11. Most of the time the weather has been pleasant and not very windy. There was no freezing weather in October until the 21st. The winter wheat which is up continues to deteriorate and thin out. It does not show up as well as two weeks ago.

Maximum temperature, 81°; minimum, 24°; precipitation, none.
October precipitation, 0.09 inch, 47-year average, 1.10 inches.
Precipitation, January - October, 6.86 inches, the second lowest on record; 47-year average, 16.64 inches.

HAYS: (Report for the week ending October 27, 1934.)

Sorghums remain at a standstill or show signs of slight deterioration. Kafir plots (having row spaces varying from 40 to 120 inches) in which wheat was drilled show a distinct depressive effect of the kafir upon the wheat germination to a distance of 40 inches from the kafir rows. Beyond 40 inches normal germination occurred in due time. The wheat drilled within 40 inches of the kafir rows did not sprout until after the rain October 18, since when fair emergence is taking place.

The harvesting of kafir plots will be finished to-day. During the week late plowing and listing has been done except on plots where sorghums have been grown this year.

Maximum temperature, 86°; minimum, 35°; precipitation, none.

HAYS: (Report for the week ending November 3, 1934)

The dry weather continued until Friday night when there was a shower of 0.29 inch. The first killing frost occurred on the morning of October 28, when the temperature dropped to 25°.

All the remaining crops of sorghum and Sudan grass were killed, and since that date the experiment station has been very busy harvesting feed crops and putting up silage. The condition of the wheat has not changed materially during the week. Most of it has been much in need of rain. Reports are coming in that some of the wheat in this locality is dying for want of moisture. The shower last night will temporarily relieve the situation, but it is not sufficient to bring permanent relief.

During the week most of the tillage work has been finished for this season. Plots were dynamited and deep tilled. Other plots have been listed, and a number of the plots to be left in corn and sorghum stubble over the winter where necessarily cultivated to prevent blowing.

Maximum temperature, 74°; minimum, 25°; precipitation, 0.29 inch.

TUCUMCARI:

No killing frost has occurred, although some corn and cowpea leaves show the effects of a minimum temperature of 33° the morning of October 28. The binders were operated parts of two days, cutting increase land Sudan grass and a limited number of kafir plots.

After frost occurs there will be a number of milo plots warranting heading, although yields in most cases will be very light. Possibly there will be enough roughage and grain produced on the station to feed work stock until the next crop is mature, although this is unlikely, even with considerable carry-over.

Winter prospects for farmers and ranchers in this locality are

very discouraging. There is little range grass, and crops are practically a failure.

Precipitation of 0.49 inch in October brought the total for the year to date to 5.37 inches and the total for the past 14 months to 6.74 inches.

October maximum temperature, 92°; minimum, 33°.

DALHART:

The past ten days have been favorable for the emergence of the late seeded winter rye. Stands of rye are thin on early seedings for the greater part. Only those areas in which the rye was almost completely whipped out were reseeded. Good stands were secured with winter wheat.

The first frost was received the morning of the 28th. This was almost two weeks later than usual and permitted the kafir plots to mature a few heads. On the first of the month it was not thought possible for any kafir grain to mature. Since the frost the kafir plots have been bound, and a few of the milo plots were bound. The milo was too short on most plots to harvest. The cowpeas were harvested just prior to the frost. Except for two plots the cowpeas were total failures.

Precipitation for October totaled 1.46 inches, which brings the total for the year to 9.44 inches; the average for the same period is 17.15 inches. Maximum temperature for the last 10 days of October was 80°; minimum, 31°; precipitation, none.

BIG SPRING:

Weather conditions during the past ten days have remained warm and dry. Although this condition is not very favorable for the rancher with little water and no grass and is not very conducive to the growth of wheat pastures, it is providing excellent harvesting conditions for those that have anything to harvest. Cotton is being picked under very favorable conditions, with the result that a very high grade of lint is being obtained. Milo is being ricked with its normal bright color prevailing.

Station work has consisted of harvesting increase Sumac, Hegari, kafir and Ajax kafir, and the remaining sorghum plots in the varieties. With the exception of one plot, the binder work for this season is completed. Milo is now being headed, and cotton picked. Other work has consisted of remodeling the feed pens for the coming year's feeding experiments. The cattle for this work will be received next week.

Maximum temperature, 90°; minimum, 38°; precipitation, 0.17 inch.
October precipitation, 0.17 inch; normal, 2.15 inches.

WOODWARD: (Report for the week ending October 27, 1934.)

Two light showers occurred during the week. Though light, they have served to keep both wheat and sorghums growing. The morning of the 27th the temperature has dropped decidedly very suddenly and this may end the season for sorghums. As it is, much more nearly mature grain will be secured by farmers than was expected. Growth of wheat is very uneven. On higher hard land it is vigorous, but not rank. In lower richer spots it is exceedingly rank. On sandier lands it has made little more than usual growth and cannot be pastured for some time.

Ernest Wright spent five days at the station, studying native and introduced material for disease. Mr. Wright is with the Federal Shelterbelt project. T. E. Woodward who is checking up on feed on Emergency Drought Relief also spent a day at the station.

Work for the week consisted of drilling wheat, stacking sorghum hay, taking soil samples, trapping gophers, pulling and seeding broomcorn, hauling brush, and picking apples.

Maximum temperature, 86°; minimum, 45°; precipitation, 0.30 inch.

WOODWARD: (Report for the week ending November 3, 1934.)

The night of October 27 temperature went to 29° - just low enough to kill most of the leaves on sorghums and establish a question whether grain would go ahead and mature or whether plants should be cut to save the forage. Since feed is so much needed, most of the sorghum over country will be cut. Two weeks longer without frost would have given many yields of 50 bushels or more. Wheat pasture is becoming generally good on even the poorer and later planted fields.

Work of week has consisted of cutting sorghums, picking tree seeds, hauling brush, repairing machinery, planting ornamental perennials, taking soil samples, and trapping gophers.

Maximum temperature, 71°; minimum, 29°; precipitation, 0.13 inch.

* * * * * * * * * * * * * * * * * * * *